Objects of die present invention are achieved by an optical disk recording device, comprising a plurality of recording units to record data on at least two optical disks, respectively, and a control unit to divide data to be recorded, for use with said optical disks, to send the divided data to the plurality of recording units, and to control a recorded amount of data such that a total amount of recorded data is substantially fixed, the recorded amount of data per unit time onto said optical disks by the plurality of recording units being substantially constant.

Other objects of the present invention are achieved by an optical disk recording device, comprising first and second recording units to record data on first and second optical disks, each disk having tracks of plural sectors with a larger number of sectors per track at the exterior circumference of each optical disk and a smaller number of sectors per track at the interior circumference of each optical disk, and a control unit to divide data to be recorded for use on the first and second optical disks, to send the divided data to the first and second recording units, to cause performance by the first recording unit of recording of data to the first optical disk, in a direction in succession from the exterior circumference towards the interior circumference, and to cause performance by the second recording unit of recording of data to the second optical disk, in succession from the interior circumference towards the exterior circumference.

Still further objects of the present invention are achieved by an optical disk playback device, comprising a plurality of playback units which playback data recorded in at least two optical disks, and a control unit to control, and to keep substantially fixed, total playback amount per unit time of the data from the optical disks, and in addition to combine data from the optical disks played back by the plurality of playback units.

Yet further objects of the present invention are achieved by an optical disk playback device, comprising first and second playback units to playback data recorded on first and second optical disks which have tracks of plural sectors, with a larger number of sectors per track at the exterior circumference of each optical disk and a smaller number of sectors per track at the interior circumference of each optical disk, and a control unit to perform, in succession from the outer circumference of the first optical disk towards the inner circumference, playback of data from the first optical disk by the first playback unit, and which causes to perform, in succession from the inner circumference towards the outer circumference, playback of data from the second optical disk by the second playback unit, and to combine the data from the first and second optical disks played back by the first and second playback units.

Further objects of the present invention are achieved by an optical disk system, comprising a housing unit to house magazines in which plural optical disks are housed, and a plurality of record/playback units to perform recording or playback with respect to the plural optical disks, and a conveyance unit to convey to the record/playback unit the optical disks housed in the housing unit, wherein the conveyance unit, after the magazines have been housed in the housing unit, conveys to a predetermined record/playback unit among the plurality of record/playback units, the optical disk housed in a predetermined position of the magazine.

Yet even further objects of the present invention are achieved by an optical disk system, comprising a housing unit to house magazines in which a plurality of optical disks are housed, a plurality of record/playback units to perform recording or playback with respect to the plurality of optical disks, and a plurality of conveyance units to respectively convey to the plurality of record/playback units, the respective plurality of optical disks housed in the housing unit, wherein the respective conveyance units, after the magazines have been housed in the housing unit, convey to respective of the record/playback units previously placed in correspondence, the respective optical disks housed in the magazines.

Additional objects and advantages of the invention will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects, features and characteristics of the present invention will be apparent to one skilled in the art from reading the following detailed description with reference to the appended claims and drawings, all of which form a part of this specification. In the drawings:

FIG. **1** is a diagram showing the optical disk recording and playback device according to a first preferred embodiment of the present invention;

FIG. **2** is a graph showing the relationship of the position (radial) of an optical disk formatted by the ZCAV system, and the data transfer speed thereof;

FIG. **3** is a graph explaining the state of affairs in which the data transfer speed becomes normally about constant, in an optical disk recording and playback device according to the first preferred embodiment of the present invention;

FIG. **4** is an oblique external view showing an example of a magazine used in the optical disk system of second and third preferred embodiments of the present invention;

FIG. **5** is a diagram of the optical disk system of the second preferred embodiment according to the present invention, showing the state with the magazine of FIG. **4** inserted;

FIG. **6** is a diagram of the optical disk system of the third preferred embodiment according to the present invention, showing the state with the optical disk cartridges carried by the magazine of FIG. **4** chucked in the conveyor units; and

FIG. **7** is a diagram of the optical disk system of the third preferred embodiment according to the present invention, showing the state with the optical disk cartridges conveyed to the position of the optical disk drives.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

First Embodiment

The present invention is described in detail hereinbelow, with reference to the preferred embodiments depicted in the attached drawings.

FIG. **1** is a diagram showing the essentials of an optical disk recording and playback device, for a first preferred embodiment according to die present invention.

In FIG. **1**, optical disks **1***a* and **1***b* are formatted in the ZCAV method. Each of disks **1***b* and **1***b* is divided into thirty zones such that the innermost circumference has thirty sectors per track, and the outermost circumference has fifty-nine sectors per track. Moreover, the amount of data per sector is 1 kbyte (1 KB). Accordingly, in contrast to 30 KB per track recorded on the innermost circumference, 59 KB are recorded on the outermost circumference.

Moreover, die optical disk drives **2***a* and **2***b* are equipped with optical heads (not shown in the drawing) which perform recording and playback of data with respect to the